



## SEQUENCE LISTING

&lt;110&gt; Li, Ming

&lt;120&gt; T-Type Calcium Channel

&lt;130&gt; 004.00191

&lt;140&gt; US 09/383,894

&lt;141&gt; 1999-08-26

&lt;150&gt; US 60/098,004

&lt;151&gt; 1998-08-26

&lt;150&gt; US 60/117,399

&lt;151&gt; 1999-01-27

&lt;160&gt; 16

&lt;170&gt; PatentIn Ver. 2.1

&lt;210&gt; 1

&lt;211&gt; 7129

&lt;212&gt; DNA

&lt;213&gt; Rattus sp.

&lt;400&gt; 1

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785 790 795 800  
Ile Met Ile Ala Ile Leu Val Asn Thr Leu Ser Met Gly Ile Glu Tyr  
805 810 815  
His Glu Gln Pro Glu Glu Leu Thr Asn Ala Leu Glu Ile Ser Asn Ile  
820 825 830  
Val Phe Thr Ser Leu Phe Ala Leu Glu Met Leu Leu Lys Leu Leu Val  
835 840 845  
Tyr Gly Pro Phe Gly Tyr Ile Lys Asn Pro Tyr Asn Ile Phe Asp Gly  
850 855 860  
Val Ile Val Val Ile Ser Val Trp Glu Ile Val Gly Gln Gln Gly Gly  
865 870 875 880  
Gly Leu Ser Val Leu Arg Thr Phe Arg Leu Met Arg Val Leu Lys Leu  
885 890 895  
Val Arg Phe Leu Pro Ala Leu Gln Arg Gln Leu Val Val Leu Met Lys  
900 905 910  
Thr Met Asp Asn Val Ala Thr Phe Cys Met Leu Leu Met Leu Phe Ile  
915 920 925

Phe Ile Phe Ser Ile Leu Gly Met His Leu Phe Gly Cys Lys Phe Ala  
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 Ser Glu Arg Asp Gly Asp Thr Leu Pro Asp Arg Lys Asn Phe Asp Ser  
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 Leu Leu Trp Ala Ile Val Thr Val Phe Gln Ile Leu Thr Gln Glu Asp  
 965 970 975  
 Trp Asn Lys Val Leu Tyr Asn Gly Met Ala Ser Thr Ser Ser Trp Ala  
 980 985 990  
 Ala Leu Tyr Phe Ile Ala Leu Met Thr Phe Gly Asn Tyr Val Leu Phe  
 995 1000 1005  
 Asn Leu Leu Val Ala Ile Leu Val Glu Gly Phe Gln Ala Glu Glu Ile  
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 Gly Lys Arg Glu Asp Ala Ser Gly Gln Leu Ser Cys Ile Gln Leu Pro  
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 Val Asn Ser Gln Gly Gly Asp Ala Thr Lys Ser Glu Ser Glu Pro Asp  
 1045 1050 1055  
 Phe Phe Ser Pro Ser Val Asp Gly Asp Gly Asp Arg Lys Lys Arg Leu  
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 Ala Leu Val Ala Leu Gly Glu His Ala Glu Leu Arg Lys Ser Leu Leu  
 1075 1080 1085  
 Pro Pro Leu Ile Ile His Thr Ala Ala Thr Pro Met Ser Leu Pro Lys  
 1090 1095 1100  
 Ser Ser Ser Thr Gly Val Gly Glu Ala Leu Gly Ser Gly Ser Arg Arg  
 1105 1110 1115 1120  
 Thr Ser Ser Ser Gly Ser Ala Glu Pro Gly Ala Ala His His Glu Met  
 1125 1130 1135  
 Lys Ser Pro Pro Ser Ala Arg Ser Ser Pro His Ser Pro Trp Ser Ala  
 1140 1145 1150  
 Ala Ser Ser Trp Thr Ser Arg Arg Ser Ser Arg Asn Ser Leu Gly Arg  
 1155 1160 1165  
 Ala Pro Ser Leu Lys Arg Arg Ser Pro Ser Gly Glu Arg Arg Ser Leu  
 1170 1175 1180

Leu Ser Gly Glu Gly Gln Glu Ser Gln Asp Glu Glu Glu Ser Ser Glu  
 1185                      1190                      1195                      1200

Glu Asp Arg Ala Ser Pro Ala Gly Ser Asp His Arg His Arg Gly Ser  
                     1205                      1210                      1215

Leu Glu Arg Glu Ala Lys Ser Ser Phe Asp Leu Pro Asp Thr Leu Gln  
                     1220                      1225                      1230

Val Pro Gly Leu His Arg Thr Ala Ser Gly Arg Ser Ser Ala Ser Glu  
                     1235                      1240                      1245

His Gln Asp Cys Asn Gly Lys Ser Ala Ser Gly Arg Leu Ala Arg Thr  
                     1250                      1255                      1260

Leu Arg Thr Asp Asp Pro Gln Leu Asp Gly Asp Asp Asp Asn Asp Glu  
 1265                      1270                      1275                      1280

Gly Asn Leu Ser Lys Gly Glu Arg Ile Gln Ala Trp Val Arg Ser Arg  
                     1285                      1290                      1295

Leu Pro Ala Cys Cys Arg Glu Arg Asp Ser Trp Ser Ala Tyr Ile Phe  
                     1300                      1305                      1310

Pro Pro Gln Ser Arg Phe Arg Leu Leu Cys His Arg Ile Ile Thr His  
                     1315                      1320                      1325

Lys Met Phe Asp His Val Val Leu Val Ile Ile Phe Leu Asn Cys Ile  
                     1330                      1335                      1340

Thr Ile Ala Met Glu Arg Pro Lys Ile Asp Pro His Ser Ala Glu Arg  
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Ile Phe Leu Thr Leu Ser Asn Tyr Ile Phe Thr Ala Val Phe Leu Ala  
                     1365                      1370                      1375

Glu Met Thr Val Lys Val Val Ala Leu Gly Trp Cys Phe Gly Glu Gln  
                     1380                      1385                      1390

Ala Tyr Leu Arg Ser Ser Trp Asn Val Leu Asp Gly Leu Leu Val Leu  
                     1395                      1400                      1405

Ile Ser Val Ile Asp Ile Leu Val Ser Met Val Ser Asp Ser Gly Thr  
                     1410                      1415                      1420

Lys Ile Leu Gly Met Leu Arg Val Leu Arg Leu Leu Arg Thr Leu Arg  
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 Thr Leu Met Ser Ser Leu Lys Pro Ile Gly Asn Ile Val Val Ile Cys  
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 Cys Ala Phe Phe Ile Ile Phe Gly Ile Leu Gly Val Gln Leu Phe Lys  
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 Gly Lys Phe Phe Val Cys Gln Gly Glu Asp Thr Arg Asn Ile Thr Asn  
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 Lys Ser Asp Cys Ala Glu Ala Ser Tyr Arg Trp Val Arg His Lys Tyr  
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 Asn Phe Asp Asn Leu Gly Gln Ala Leu Met Ser Leu Phe Val Leu Ala  
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 Ser Lys Asp Gly Trp Val Asp Ile Met Tyr Asp Gly Leu Asp Ala Val  
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 Gly Val Asp Gln Gln Pro Ile Met Asn His Asn Pro Trp Met Leu Leu  
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 1570 1575 1580  
 Phe Val Gly Val Val Val Glu Asn Phe His Lys Cys Arg Gln His Gln  
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 Asp Tyr Ser Arg Phe Arg Leu Leu Val His His Leu Cys Thr Ser His  
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 Tyr Leu Asp Leu Phe Ile Thr Gly Val Ile Gly Leu Asn Val Val Thr  
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 Met Ala Met Glu His Tyr Gln Gln Pro Gln Ile Leu Asp Glu Ala Leu  
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Lys Ile Cys Asn Tyr Ile Phe Thr Val Ile Phe Val Phe Glu Ser Val  
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 Phe Lys Leu Val Ala Phe Gly Phe Arg Arg Phe Phe Gln Asp Arg Trp  
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 1780 1785 1790  
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 Glu Thr His Pro Cys Glu Gly Leu Gly Arg His Ala Thr Phe Arg Asn  
 1825 1830 1835 1840  
 Phe Gly Met Ala Phe Leu Thr Leu Phe Arg Val Ser Thr Gly Asp Asn  
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 Trp Asn Gly Ile Met Lys Asp Thr Leu Arg Asp Cys Asp Gln Glu Ser  
 1860 1865 1870  
 Thr Cys Tyr Asn Thr Val Ile Ser Pro Ile Tyr Phe Val Ser Phe Val  
 1875 1880 1885  
 Leu Thr Ala Gln Phe Val Leu Val Asn Val Val Ile Ala Val Leu Met  
 1890 1895 1900  
 Lys His Leu Glu Glu Ser Asn Lys Glu Ala Lys Glu Glu Ala Glu Leu  
 1905 1910 1915 1920  
 Glu Ala Glu Leu Glu Leu Glu Met Lys Thr Leu Ser Pro Gln Pro His  
 1925 1930 1935  
 Ser Pro Leu Gly Ser Pro Phe Leu Trp Pro Gly Val Glu Gly Val Asn  
 1940 1945 1950

Ser Pro Asp Ser Pro Lys Pro Gly Ala Pro His Thr Thr Ala His Ile  
 1955 1960 1965  
 Gly Ala Ala Ser Gly Phe Ser Leu Glu His Pro Thr Met Val Pro His  
 1970 1975 1980  
 Pro Glu Glu Val Pro Val Pro Leu Gly Pro Asp Leu Leu Thr Val Arg  
 1985 1990 1995 2000  
 Lys Ser Gly Val Ser Arg Thr His Ser Leu Pro Asn Asp Ser Tyr Met  
 2005 2010 2015  
 Cys Arg Asn Gly Ser Thr Ala Glu Arg Ser Leu Gly His Arg Gly Trp  
 2020 2025 2030  
 Gly Leu Pro Lys Ala Gln Ser Gly Ser Ile Leu Ser Val His Ser Gln  
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 2115 2120 2125  
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 Gly Ile Gln Ser Lys Val Ser Lys His Ile Arg Leu Pro Ala Pro Cys  
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 Pro Gly Leu Glu Pro Ser Trp Ala Lys Asp Pro Pro Glu Thr Arg Ser  
 2165 2170 2175  
 Ser Leu Glu Leu Asp Thr Glu Leu Ser Trp Ile Ser Gly Asp Leu Leu  
 2180 2185 2190  
 Pro Ser Ser Gln Glu Glu Pro Leu Ser Pro Arg Asp Leu Lys Lys Cys  
 2195 2200 2205



Tyr Ser Val Glu Thr Gln Ser Cys Arg Arg Arg Pro Gly Ser Trp Leu  
 2210 2215 2220  
 Asp Glu Gln Arg Arg His Ser Ile Ala Val Ser Cys Leu Asp Ser Gly  
 2225 2230 2235 2240  
 Ser Gln Pro Arg Leu Cys Pro Ser Pro Ser Ser Leu Gly Gly Gln Pro  
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 Leu Gly Gly Pro Gly Ser Arg Pro Lys Lys Lys Leu Ser Pro Pro Ser  
 2260 2265 2270  
 Ile Ser Ile Asp Pro Pro Glu Ser Gln Gly Ser Arg Pro Pro Cys Ser  
 2275 2280 2285  
 Pro Gly Val Cys Leu Arg Arg Arg Ala Pro Ala Ser Asp Ser Lys Asp  
 2290 2295 2300  
 Pro Ser Val Ser Ser Pro Leu Asp Ser Thr Ala Ala Ser Pro Ser Pro  
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 Lys Lys Asp Thr Leu Ser Leu Ser Gly Leu Ser Ser Asp Pro Thr Asp  
 2325 2330 2335  
 Met Asp Pro Val Leu Pro Thr Leu Pro His His Leu Ser Pro Pro Gly  
 2340 2345 2350  
 Ala Asp Pro Ser Ser Ala Ser Trp Ala Ala Phe Leu Lys Ser Pro Thr  
 2355 2360 2365  
 Ala Ala Ser Ser His Glu Ala Pro His Leu Pro Ser Ser Val Ala Gly  
 2370 2375 2380  
 Gly Asp Asp Glu Gln Asn Phe Arg Arg Val Asp Leu Lys Arg Thr Gln  
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